TECHNICAL PAPER/ABSTRACT INDEX

MONDAY, MAY 24

M101 SI (sponsored by the Office of the President) ASQ Research Committee Status Report

No paper submitted

M102 SI Six Sigma—Moving Beyond the Hype

Anna Thornton, MIT; Edwards Kopkowski, Pilkington Libbey-Owens-Ford; Ted Mitrou, Black & Decker
No papers submitted

Six Sigma–Moving Beyond the Hype 1
Hansraj Bajaria, Multiface, Inc.
Key words: problem-solving, six sigma quality

M103 IS Tools for Building a Meaningful Workplace

Building a Meaningful Workplace: Ideas, Tools, and Strategies 4
Tom Terez, Meaning at Work
Key words: culture change, high-performance workplace, leadership

M104 IS Total Quality Leadership

Total Quality Leadership 12
Steve Kaye, Personal Quality

M105 IS Strategic Planning: Unleashing the Mystery Force

Strategic Planning: Unleashing the Mystery Force 14
G. Thomas Jones, Oriel Incorporated
Key words: PDCA, reviews, strategic planning

M106 DIG Quality Improvement Technology in the Process Industries
Chemical and Process Industries Division

The Tiny Experiment: What Can I Get For 10 Runs? 26

Bradford S. Brown, Consultant—Quality and Statistics
Key words: factor effect, interaction, response surface

Managing Variability For Continual Improvement 28
Kenneth A. Chatto, Consultant
John T. Herman, Consultant
Key words: contrast method, improvement scenario, variability

Comparing Randomization and a Random Run Order in Experimental Design 29
James M. Lucas, J.M. Lucas & Associates
Key words: randomization, restriction, split-plot

M107 DIG Surfing the Community Quality Wave
Community Quality Councils Committee

James Harrington, Ernst & Young & Myron Tribus
No paper submitted

The Dolphins are Back 36
Phillip M. Scanlan, AT&T Quality Office
Key words: healing the environment, ocean/dolphins, quality approach

M108 DIG Hazards and Risk Analysis: A "How to" Guide for Medical Device Manufacturers
Biomedical Division

Russ Campbell, FDA—LA District
No paper submitted

Overview of International Standards Relating to Risk Management 38
J. Glenn George, STAT-A-MATRIX

How to Manage a Risk Analysis Program 40
James McLinn, Rel-Tech, Inc.
Key words: failure mode effects analysis, hazard analysis, risk analysis

M109 DIG ISO Quality Standards in Year 2000: What is Coming?
Standards Committee

The ISO 9001: 2000 Revision—What's it All About? 48
James S. Bigelow, TQM Consulting
Key words: ISO 9001:2000, quality management, requirements

ISO 9004:2000—What is Coming?
Charles Cianfrani, Arbor, Inc.
Key words: ISO 9004, quality management

Use of ISO 9001 By the Medical Device Sector: Can ISO 9001 Meet the Needs of All Sectors? 52
Joseph J. Tsiakals, Liaison ISO TC 210 and ISO TC 176

Sector-Specific QMS Standards: Why Can't We All Just Use the Same Standard? 56
Jack West, Consultant
Key words: automotive, ISO 9000, sector

M110 PS The Evolving Organization—From Bureaucratic Monopoly to Results-oriented Community Services

The Evolving Organization 58
Bob Wingenroth, City of Phoenix
Key words: learning, participation, trust

M111 ED Quality Planning: Understanding the School District as a System

Put Kids First With ISO 9000 60
Robert Bowen, r. bowen international
Key words: Baldrige, ISO 9000, quality system

Vicki Phillips
No paper submitted

M112 HC ISO 9000 in Health Care

ISO 9000 in Healthcare—Consider the Possibilities 73
Margaret Class, Naval Medical Quality Institute

Thomas Reiley, Synapse Consultation, PC
No paper submitted

M113 SI Why Is Traditional Accounting Failing Quality Managers?

Why Is Traditional Accounting Failing Quality Managers? Activity-Based Costing is the Solution 74
Gary Cokins, ABC Technologies Inc.
Key words: activity-based cost management (ABC/M), cost accounting, decision support

M114 LE ISO Registrations and Finance

Quality in the Financial Sector: How to Provide Better Customer Service With an ISO 9000-Based Quality System 81
Ulrike Vogt, DQS GermanAmerican Registrar for Management Systems, Inc.
Norbert Saffran, Deutsche Bank AG
Key words: implementing quality system, ISO 9000 standard, service industry

M115 IS Overcoming Stall Points—Best Practices Exchange
See session T203

M201 LD Baldrige Assessments to Achieve World Class Performance

Using Baldrige Assessments to Achieve World-Class Performance: A Case Study 87
David W. Hutton, David Hutton & Associates
Lori Topp, TELUS Mobility
Key words: assessment, Baldrige, planning

Corporate Leadership in Operational Diversity 96
R.H.G. Rau, RPG Enterprises
Key words: guiding principles, initiatives, integration

M202 SI Winners and Winning—The Value in State Quality Awards

No paper submitted

M203 IS The Eight Rings of Organizational Influence!™

The Eight Rings of Organizational Influence!™: How to Energize Your Organization to Achieve Tangible Results 104
Ron Rosenberg, QualityTalk
Key words: change, leadership, results

M204 IS Value-Added Contracting for Predictable Results

Value-Added Contracting for Predictable Results: Contracts Are Too Important to be Left to Lawyers Alone! 110
Helena Haapio, Lexpert Ltd.
Key words: contractual quality management, integrated risk reduction, preventative law

M205 IS A Preventative Action Strategy: Minimizing Unintended Change

A Preventative Action Strategy: Minimizing Unintended Change 114
Thomas H. Burgess, Bailey-Fischer & Porter Company
Key words: change control, manufacturing quality, preventative action

M206 DIG Inspection and Changing Culture of Quality
Inspection Division

Inspection and Test: Past and Future 116
Mollie Brown, Cummins Engine Company
Jenny Persfull, Sabin Corporation
Key words: history, progressive approach example, vision for future

The Inspector's Role in Organizational Quality 117
Bud Gookins, General Plug & Manufacturing Company
Dale Durkee, Heritage Commons
Key words: human factors, processes, technology

John Karjanis, Nokia Mobile Phones
No paper submitted

M207 DIG Food, Drug, and Cosmetic Division: 2000 and Beyond
Food, Drug and Cosmetic Division

No paper submitted

M208 DIG Avoiding Man-Made Chaos
Quality Management Division

Avoiding Man-Made Chaos 122
Donald J. Wheeler, Statistical Process Controls, Inc.
Key words: continual improvement, process control, SPC

M209 DIG Design and Construction Quality Strategies in the Next Millennium
Design and Construction Division

ISO 9001: A Basis to Satisfy Customers and Improve Operations 123
Swapan Das, Raytheon Engineers & Constructors, Inc.
Key words: conclusion, introduction, phases

Quality System for Facilities Management *127*
Joseph Ludford, White Hart Associates
Key words: facility quality, integrated quality systems, quality strategies

The QIC—Quality Improvement Challenge *134*
Douglas A. Shipman, Sunrise Colony
Key words: challenge, improvement, quality

M210 PS Collaboration for Success: Reconnecting Citizens with their Government

When Citizens Talk, Government Listens: Public Drives Brea Downtown Development Plans *139*
Frank Benest, City of Brea CA

Collaboration For Success: Facilitating Large Group Interventions *142*
Bill Chiat, County of Santa Barbara CA
Michele Mickiewicz, County of Santa Barbara CA
Key words: collaboration, facilitation, public sector management

M211 ED Quality Planning: Building Community Consensus

Gordon Black
No paper submitted

M212 HC ISO 9000 in Health Care (continued from M112)

Baldrige Award Criteria and Healthcare *149*
James Collins, Plexus Corporation

M213 SI ASQ's Enhanced Presence on the Internet: ASQ Net, QIC, VQN

No paper submitted

M214 LE Management Systems for a New Millennium

EMAS-Environmental Management in the European Union *150*
Georg Sulzer, GKC Dr. Oettl & Partner
Key words: eco-management and audit scheme (EMAS), environmental management system, ISO 14001

A Unified Approach to Compliance Management *158*
Russell Ziebell, River Systems/QTech Systems, Inc.
Key words: enterprise resource planning (ERP)

M215 IS Tools for Building a Meaningful Workplace
See session M103

M216 SI Six Sigma Academy and the Breakthrough Strategy (sm)

No paper submitted

TUESDAY, MAY 25

T101 SI Transformations to Quality Organizations
cancelled

T102 CI-ST Statistical Thinking for Management

Statistical Thinking for Management 166
Galen C. Britz, 3M
Donald W. Emerling, Imation
Lynne Hare, Nabisco
Stu Janis, 3M IT Statistical Computing
Janice Shade, Nabisco
Ron Snee, Consultant
Key words: interactive, management, statistical thinking

T103 IS Lateral Thinking™ : Innovation on Demand

Lynda Curtin, The Opportunity Thinker
No paper submitted

T104 IS Communicating Quality—The Illuminative Approach

Communicating Quality—The Illuminative Approach: Using Pictures and Stories to Communicate Quality, Strategy and Values in an Organization 168
Annika Varjonen, Visual Impact
Key words: effective communication, strategic illustrations, visualizations

T105 IS Quality Initiatives: Stepping Stones or Stumbling Blocks?

Linda Bankoski, Quality Leadership Associates
Micaela Corradin, University of Delaware
No paper submitted

T106 DIG World Quality Consulting: Developing a Context
ASQ International Chapter

World Quality Consulting: Developing a Context 171
Hansraj Bajaria, Multiface, Inc.
Key words: problem-solving, quality consulting

T107 DIG Baldrige Criteria as a Recovery Model for Customer Satisfaction?
Customer Supplier Division

Baldrige Criteria as a Recovery Model for Customer Satisfaction? Learning by the Case Method: Music Piano Manufacturing 176
John Brown, Brown & Associates
Traci V.A. Edwards, TVA Associates
Key words: Baldrige, customers, suppliers

Jim Oven, AK Rubber Products, Inc.
No paper submitted

T108 DIG SPC Applied to Software & Exploring Far-Reaching Change
Software Division

Improving the Software Process with SPC *179*
Anita D. Carleton, Software Engineering Institute
Key words: software process, software process improvement, statistical process control

Achieving Desired Business Results *181*
Douglas B. Hamilton, Andersen Consulting
Mark P. McDonald, Andersen Consulting
Key words: business results, change, content, context, course of action, deployment, program office, scorecard, service level agreement

The Drivers and Structure for Successful Change *184*
Douglas B. Hamilton, Andersen Consulting
Mark P. McDonald, Andersen Consulting
Key words: capacity to change, culture, transformational change

T109 DIG Researching the Individual: What Makes Leaders, Teams and Employees Produce Results
Human Development & Leadership Division

Researching the Individual: What Makes Leaders, Teams and Employees Produce Results *193*
Marian Muser, Northrop Grumman
Hank Sobah, Ernst & Young
Jack West, Northrop Grumman
Greg Watson, Business Systems Solutions, Inc.

T110 PS The Great Experiment: Deming Meets the Community

The Great Experiment: Deming Meets the Community *194*
Ray Corpuz, City of Tacoma
Alisa O'Hanlon, Deming Partnership
Key words: community improvement, Deming, Tacoma/Pierce County

Peter Scholtes
Author of *The Team Handbook*
No paper submitted

T111 ED Understanding and Inspiring Learning in a Quality Classroom

Understanding and Inspiring Learning in a Quality Classroom *202*
Barabara Cleary, PQ Systems, Inc.
Key words: brain, improvement, strategies

T111a ED Quality Activity: Improving School Performance by Teamwork

Quality Activity: Improving School Performance by Teamwork *210*
Sally Duncan, Master Trainer
Key words: Koalaty Kid, quality in education, quality processes in K–12

T112 HC Process Control Charts in Health Care

The Christiana Care Traffic Book: Quality Improvement in Practice 215
P. John Pegg, MD, Christiana Care Health Services, Inc.
Key words: disease management, performance improvement, process control charts

T113 SI Continuous Improvement—Methods and Madness

Continuous Improvement—Methods and Madness 218
Alan J. Peterson, Plexus Corporation
R. Dan Reid, GM-Powertrain
Key words: continuous improvement, corrective action, innovation

T114 QT Help! How Do I Prepare for a Certified Quality Exam?

Alternative Delivery Approaches to Body of Knowledge Mastery in Quality Auditing, Engineering, and Management 222
Beth Fasching, Holmes Corp.
Scott Miller, Holmes Corp.
Susan Woodrow, ASQ
Key words: auditor, certification, engineer, manager, quality, training

T115 IS The Eight Rings of Organizational Influence!™
See session M203

T116 IS Integrating the Quality Assurance Function Into the Product Development Process
See session T204

T117 SI The New Telecommunications Requirements: TL9000

No paper submitted

T201 SI Quality: A Focus on Results

No paper submitted

T202 CI-ST Use of Statistical Thinking in the Air Force and at Home

Enterprise Performance Measurement 225
Steve Flowers, Air Force Medical Operations Agency
Devin Satz, Air Force Medical Operations Agency
Key words: balanced scorecard, performance measurement, technology insertion

Statistical Thinking: A Personal Application 230
Tom Pohlen, 3M Company
Key words: diabetes, process, variation

T203 IS Overcoming Stall Points—Best Practices Exchange

Overcoming Stall Points—Best Practices Exchange 236
Gerry Murak, Murak & Associates
Key words: best practices, implementation, networking

T204 IS Integrating the Quality Assurance Function Into the Product Development Process

Integrating the Quality Assurance Function into the Product Development Process 238
Wanda Dembeck, Triad Performance Technologies, Inc.
Desiree Gibson, Triad Performance Technologies, Inc.
Key words: new product development process, internal consulting, QA activities

T205 SI Enterprise Resource Planning (ERP) and the Future of Quality Systems

No paper submitted

T206 DIG World Class Performance: Proven Approaches
ASQ International Chapter

TPI Model in a Commerce Chamber: Indian Experience 244
Geeta Bharadwaj, Indian Merchants' Chamber

Dynamic Leadership from Anti-Management to Pro-Management 252
Gilberto G. Concepción, JGC & Associates

Strategies For Achieving Business Excellence: An Ideological Perspective 256
Taina Savolainen, University of Jyvaskyla
Key words: culture, embedding of total quality ideology, entrepreneurial spirit

T207 DIG How to Measure Business Performance
Measurement Quality Division

Measurements and the Knowledge Revolution 268
Thomas A. Pearson, Automated Technology Institute
Key words: business metrics, profound knowledge, real-time information

T208 DIG Establishing the Product Liability Prevention Program
Product Safety and Liability Prevention

Understanding What Product Liability Prevention is All About 274
Randall Goodden, Everbrite, Inc.
Key words: engineering, lawsuits, legal, prevention, product liability, reliability

A Lawyer's Role in Product Liability Prevention 278
Kenneth Ross, Bowman & BrookeLLP
Key words: legal, product liability, safety

T209 DIG Show Me the Money
Quality Audit Division

Audit Program Economics: Getting Out of the Red 282
Traci V.A. Edwards, TVA Associates
Key words: audit program management, cost-benefit

T210 PS The 21st Century Project

The Public Sector in the 21st Century: Case Studies of Successful Citizen-Government Partnerships 284
Becky Meyers, New York State Office of General Services
Tom Mosgaller, City of Madison, Wisconsin
Mark Popovich, The Public's Work
Peter Scholtes
Dale Weeks, Minnesota Dept. of Revenue
Key words: Baldrige criteria, benchmarking, citizen-government interaction, customer focus, strategic process management

T211 ED Improving School Performance by Team Work—Quality Tools and Technology

Alternative Student Assessments and How They Are Used for Developing the Workforce of Tomorrow 286
Marshall Gartenlaub, ED>Net
Key words: educational assessments, student organizations, Vocational Industrial Clubs of America, vocational-technical

High School Students Use Quality Improvement as a Learning Strategy 293
Robert Hoskins, VICA team presentation
Key words: improved problem solving, K–12, learning strategy, skills

T212 HC Improving Patient Education Through Staff Education

Improving Patient Knowledge and Satisfaction 296
Adrienne Kirby, PhD, RN, Christiana Care Health Services
Key words: nurse knowledge, patient education, patient satisfaction

T213 SI Moving On, Moving Up—Your Career in Transition

Moving On, Moving Up: Your Career in Transition 299
Gerald R. Brong, GMB Partnership
Key words: career, employment, job search

T214 QT Building Technology-based Training Solutions

Building Technology-based Training Solutions 301
Ralph Frattura, USWeb/CKS
Key words: computer-based training, Internet, performance improvement

T215 IS Balancing Individual and Team Roles—One S.T.E.P. Ahead

Balancing Individual and Team Roles—One STEP Ahead 303
N. Barry Mathis, Jr., Boeing
Key words: ensuring success, exceeding the expected, working together

T216 IS Lateral Thinking™: Innovation on Demand
See session T103

T217 SI Management Approach Toward the 21st Century—The IAQ Vision

No paper submitted

T301 LD Achieving Management System Implementation Beyond ISO 9000

Moving Beyond ISO 9000: Becoming a World-Class Organization Using the MBNQA Criteria 306
Anthony C. Fletcher, Eagle Group USA, Inc.
Key words: business management system (BMS), ISO 9000, MBNQA criteria

Strategies for Humanizing the Implementation of Quality Systems 313
Michelle Hamilton, QMI
Anne Wilcock, University of Guelph
Key words: implementation, people, quality system

T302 CI-M Design of Experiments for Industrial Applications

Response Surface Model for Resistance Welding 321
James Clark, Breed Technologies
Key words: ANOVA, resistance welding, RSM

Generant Mixture Limits Testing Experiment 327
Douglas E. McCoy, Breed Technologies
Key words: ANOVA, contour plot, trace plot

T303 IS How to Write Clear Work Instructions

How to Write Clear Work Instructions 331
Donna Nash, Shieldmate Robotics
George Callison, Callison Consulting, Inc.
Key words: documentation, ISO 9000, work instructions

T304 IS Balancing Individual and Team Roles—One S.T.E.P. Ahead
See session T215

T305 LE Management Effectiveness is (still just) Integrated Common Sense

Infinity Model for Organizational Excellence 333
Alice B. Beechner, Paragon Business Solutions, Inc.
Karen A. Hamilton, Paragon Business Solutions, Inc.
Key words: alignment, continuous improvement, strategic planning

Integrated Management Systems Category: Leading Edge 337
Stefan Heinloth, DQS, Inc.—Registration Services

Those Golden and Red Pastures of Management: Application of Efficiency-Effectiveness Matrix 342
Sumit Roy, Confederation of Indian Industry
Key words: activities, alignment, goals

T306 DIG Quality is Key Factor from Asia to Americas
ASQ International Chapter

Sustaining Political Leadership for Quality: A Case Study of Quantum Improvements 356
John Cumberford, Government of Manitoba
Madhav Sinha, Government of Manitoba
Eric Stefanson, Government of Manitoba

A Modeling Approach for the ISO 9001 Requirements 363
Hyung-Goo Won, Hansung University
Key words: integrated model, process, quality system

T307 DIG The Quality Management Systems Guide . . . The Next Step
Aviation, Space & Defense Division

No paper submitted

T308 DIG A Trilogy of Multi-Industry MSQA Graduate Projects
Electronics Division

A Graduate Course in Quality Customer Service: Internet Based and Delivered 368
Keith Fulton, California State University-Dominguez Hills
Key words: degree, development, education

Practical Applications of Quality Tools Perspectives in Pharmaceutical Validations 372
Audrey Prosser, Allergan, Inc.
Key words: pharmaceutical TQM, quality tools, validation

The Lean Manufacturing Enterprise 375
Jerry L. VerDuft, Space and Missle Systems Control
Key words: flow, value stream, variability reduction

T309 DIG Measuring Management System Performance
Energy and Environmental Division

Quality Performance Evaluation: Measuring QMS Effectiveness 379
Gary Johnson, USEPA
Key words: ISO 9001, quality mangagement systems, suitability and effectiveness

Edward Quevedo, WISE & SHEPARD; Michael A. Ross, Registrar Accreditation Board
No papers submitted

T311 ED From Compliance to Continuous Improvement—Using Accountability To Transform Education

From Compliance to Continuous Improvement—Using Accountability To Transform Education 385
Bob Newhouse, APQC ConnectEd
Peggy Odem, APQC ConnectEd
Key words: accountability, Baldrige, continuous improvement

T312 HC The Application of Quality Improvement Tools in the Healthcare Setting

Patient Satisfaction: Designing and Managing Your Patient's Experience 386
Robert (Robin) Casanova, Casanova & Associates
Key words: customer service, patient satisfaction, risk management

Practical Applications of Quality Improvement Tools in Health Care: Run Charts, Pareto Charts, and Cause-and-Effect Diagrams 389
Merle C. Cunningham, Lutheran Medical Center
Katherine Garrett, Consultant on Health Care Management
Key words: organizing theories of cause, performance measures, priority setting

T313 SI Six Sigma Success Stories from ASQ

No paper submitted

T314 SI The Role of Computing in Airplane Design

Information Technology (IT) in Aerospace: Beyond Automation 391
Albert M. Erisman, The Boeing Company
Key words: aerospace, computing, process

T315 IS A Preventative Action Strategy: Minimizing Unintended Change
See session M205

T316 IS Quality Initiatives: Stepping Stones or Stumbling Blocks?

No paper submitted

T317 SI How the Q Lost Its Tail: The SHIFT from Quality to Organizational Performance

No paper submitted

WEDNESDAY, MAY 26

W101 SI Transformations to Quality Organizations
cancelled

W102 CI-M Process Improvement through Design of Experiments

Revealing Interactions from Fractional DOE's 394
Mark J. Anderson, Stat-Ease, Inc.
Shari L. Kraber, Stat-Ease, Inc.
Key words: aliased interactions, design of experiments, fold-over design

Taguchi's Parameter Design: An Improved Alternative Approach 400
Bruno Scibilia, Istia University
Abdessamad Kobi, Istia University
A. Barreau, Professor
R. Chassagnon, Engineer
Key words: cross-product arrays, quality engineering, signal-to-noise ratio

W103 IS Managing a Project from A to Z

Managing a Project from A to Z 405
Michael Stanleigh, Business Improvement Architects

W104 LD Learning and Continuous Improvement through Self-Assessment

Striving for Continuous Improvement: The Experience of U.K. Local Government Services 414
Carol Brennan, Queen Margaret College
Alexander Douglas, Bell College of Technology
Key words: best value, business excellence model, quality standards

Self-Assessment as a Facilitator for Learning 423
Ulrika Hellsten, Lulea University of Technology
Pia Sandvik Wiklund, Lulea University of Technology
Key words: continuous improvement, learning organization, self-assessment

A New Approach to Using the Baldrige Criteria 432
Hay Wun Wain, PricewaterhouseCoopers, LLP
Key words: Baldrige assessment, total quality management

Impact of Self-Assessment Methodologies in Small Businesses 439
George Wilson, University of Ulster

W105 LE People, Processes, and Relationships—The TQM Way

Stakeholders Management: A Total Quality Approach 448
Joseph N. Kelada, University of Montreal
Key words: stakeholders' management, stakeholders' triad, TQM

Linking People and Processes 454
James H. Krefft, Six Sigma-Qualtec
Key words: competencies, hiring, performance management

Integrating Quality Metrics and Relationship Grids 461
Gerald E. Murine, Metriqs International
Jean Roberts, Roberts Management Concepts Pty Ltd
Key words: optimal resource allocation, quality metric, relationship grid

W106 CI-M A New Spin on Old Tunes

ISO 9000 Consortium: A Quality Partnership 472
Patricia Betzold, Manitoba Quality Network (QNET)
Elaine Phillips, WORKFORCE 2000 Manitoba
Key words: consortium, ISO, partnership

How to Achieve Accelerated Learning For QS-9000 479
Pat Joswick, L.M.O.E.
John Morrow, Ticona, LLC
Key words: COQ, learning, QS-9000

W107 DIG Demystifying Six Sigma
Service Quality Division

Achieving Quantum Leaps in Quality and Competitiveness: Implementing the Six Sigma Solution in Your Company 486
Jerome Blakeslee, Jr., PricewaterhouseCoopers Consulting

W108 DIG Future of Automotive Quality
Automotive Division

Future of Automotive Quality—Supplier's Perspective 497
Kay Bustard, Delphi Chassis Systems
Key words: Delphi Automotive Systems, excellence, quality system

Donald Mitchell, General Motors; James Pongracz, Process Development Corp; Daryl Simon, PACCAR, Inc.
No papers submitted

W109 DIG Principles of Quality Costs—UPDATED
Quality Cost Committee

Quality Costs: Application in Non-manufacturing Organizations 498
G. Dennis Beecroft, University of Waterloo
Key words: continuous improvement, cost of quality, non-manufacturing processes, process measurement

Exploring the Principles that Underlie Software Quality Costs 500
Herb Krasner, Krasner Consulting
Key words: software quality costs

Quality Costs and Quality Standards: Does ISO 9000 Care About Quality Costs? 504
John C. Schottmiller, RM Consulting
Key words: cost of quality, economics, Q90 series

Principles of Quality Costs: Principles, Implementation, and Use 507
Jack Campanella, Underwriters Laboratories
Key words: cost of poor quality, cost of quality, software quality costs

W110 PSN The Challenges to Achieving Quality in a Federal Government Service Organization

Organizational Excellence in the Public Sector 509
John T. Dillard, Colonel, USArmy
Key words: civil service, leadership, quality

W111 ED Quality Evaluations: Using Standards and Assessment to Increase Accountability in Your School District

Improving Student Learning: Using Data to Inform Instructional Decisions 511
Lee Jenkins, Antioch Unifies School District
Key words: Deming, educational data, student learning

W112 HC Applications of Quality Improvement in Communities

Example of a Community-based Health Effort 518
Virginia Casady, IHC Evanston Regional
Ruth Nickerson, Uinta County Public Health
Key words: community, health care, planning

W113 SI ACCS . . . Accelerating Change . . . Accelerating Results

No paper submitted

W114 QT The Quality Data Warehouse: Solving the Problems for the Manufacturing Enterprise

The Quality Data Warehouse: Serving the Analytical Needs of the Manufacturing Enterprise 521
Bradley W. Klenz, SAS Institute
Key words: data warehouse, online analytical processing (OLAP), statistical quality improvement

W115 How to Write Clear Work Instructions
See session T303

W201 CI-M Lean Process Strategies That Improve Quality

Implementing Lean in a Non-manufacturing Business 530
Dianne Dickerson, Deltapoint Corp.
David M. Turner, Continental Data Graphics
Key words: customer-supplier relationship, lean manufacturing, risk abatement

Creating Continuous Improvement Synergy with Lean and TOC 543
Kevin Hein, LucasVarity Automotive
Key words: continuous improvement, lean thinking, theory of constraints

W202 CI-ST Service Quality Indices

A Methodology for Building Service Quality Indices 550
Daniel Peña, Universidad Carlos III Madrid
Key words: multiattribute model, weight assessment

W205 CI-M Design of Audits for Improved Management Results

Audits That Make a Difference 559
Judith Malsbury, Princeton Plasma Physics Lab
Key words: audits, customer satisfaction, processes

When Does the Audit End? 564
J.P. Russell, J.P. Russell & Associates
Key words: auditor, audits, body of knowledge, CQA

W206 SI Working It: Riding the Waves of Workplace Change

Working It: Riding the Waves of Workplace Change 566
Greg Hutchins, Quality Plus Engineering
Henry Lindborg, National Institute for Quality
Mark Von Weber, AOQC Moody International
Key words: career, professional development

W207 DIG Reliability for the Quality Engineer
Reliability Division

Failure Modes and Effects Analysis: Perils, Pitfalls, and Opportunity 570
Paul M. Booth, Beckman Coulter
Key words: engineering error, engineering organization learning, FMEA

Reliability Modeling with Spreadsheets 575
Bryan Dodson, Continental Teves
Key words: parameter estimation, reliability modeling, tolerance design

Regression Analysis Links Reliability and Quality: The Rainbow Chart Simplifies Evaluation 586
Thimmiah Gurunatha, Xerox
Key words: correlation, rainbow process, regression analysis, reliability, variability

W208 DIG Implementing Statistical Thinking in Education: A Case Study of School Principals
Statistics Division

Improving K–12 Education Using Statistical Thinking: A Case Study of School Principals 589
Charles Blanton, Partners in Profound Knowledge
Paula Sommer, Institute for Standards in Quality Education
Key words: case study, education, statistical thinking

W209 DIG The Secret of Victoria's Secret
Textile and Needle Trades Division

The Secret of Victoria's Secret 593
Peter G. Allison, Victoria's Secret Stores

W210 PS The Creation of a National Citizen Satisfaction Index

The Creation of a National Citizen Satisfaction Index 595
John Cumberford, Government of Manitoba
Guy Gordon, Government of Manitoba
Madhav N. Sinha, Government of Manitoba
Key words: customer surveys, national citizen satisfaction index, public sector management

W211 ED Quality Improvement: Establishing a Culture for High Performance

Establishing a Culture for High Performance 601
Jim Shipley, Jim Shipley & Associates
Key words: alignment, Baldrige, K-12

W212 HC The Community Health Improvement Model and Method

Community Health Improvement Model and Method 607
Marian L. Knapp, Knapp and Associates
Thomas T. Reiley, Synapse Consultation, P.C.
Key words: action strategies, change concepts, global aim, identified experts, simple measurements, specific aim

W213 SI The Scope and Depth of Quality Standards

The Scope and Depth of Quality Standards 609
Hitoshi Kume, Chuo University
Key words: ISO 9000 Standards, level of quality management, proliferation

W214 QT So Much Data and So Little Information: Finding the Data Analysis Solution That Fits Your Needs

So Much Data and So Little Information: Finding the Data Analysis Solution That Fits Your Needs 615
Donna O. Fulenwider, SAS Institute, Inc.

AUTHOR INDEX

	Session	*Page*
A		
Allison, Peter G.	W209	593
Anderson, Mark J.	W102	394
B		
Bajaria, H. J.	M102	1
Bajaria, H. J.	T106	171
Barreau, A.	W102	400
Beechner, Alice B.	T305	333
Beecroft, G. Dennis	W108	498
Benest, Frank	M210	139
Betzold, Patricia	W106	472
Bharadwaj, Geeta	T206	244
Bigelow, James S.	M109	48
Blakeslee, Jerome A., Jr.	W107	486
Blanton, Charles	W208	589
Booth, Paul	W207	570
Bowen, Robert D.	M111	60
Brennan, Carol	W104	414
Britz, Galen	T102	166
Brong, Gerald R.	T213	299
Brown, Bradford S.	M106	26
Brown, John O.	T107	176
Brown, Mollie M.	M206	116
Burgess, Thomas H.	M205	114
Bustard, Kay I.	W107	497
C		
Callison, George	T303	331
Campanella, Jack	W109	507
Carleton, Anita D.	T108	179
Casady, Virginia	W112	518
Casanova, Robert	T312	386
Chassagnon, R.	W102	400
Chatto, Kenneth A.	M106	28
Chiat, William S.	M210	142
Cianfrani, Charles A.	M109	50
Clark, James B.	T302	321
Class, Margaret M.	M112	73
Cleary, Barbara A.	T111	202
Cokins, Gary	M113	74
Collins, James W., Jr.	M212	149
Concepción, Gilberto G.	T206	252
Corpuz, Ray E., Jr.	T110	194
Cumberford, John	T306	356
Cumberford, John	W210	595
Cunningham, Merle C.	T312	389
D		
Das, Swapan K.	M209	123
Dembeck, Wanda	T204	238
Dickerson, Dianne	W201	530
Dillard, John T.	W110	509
Dodson, Bryan	W207	575
Douglas, Alex	W104	414
Duncan, Sally	T111	210
Durkee, Dale	M206	117
E		
Edwards, Traci V. A.	T107	176
Edwards, Traci V. A.	T209	282
Emerling, Don	T102	166
Erisman, Albert M.	T314	391
F		
Fasching, Beth	T114	222
Fletcher, Anthony C.	T301	306
Flowers, Steve	T202	225
Frattura, Ralph	T214	301
Fulenwider, Donna O.	W214	615
Fulton, Keith	T308	368
G		
Garrett, Katherine E.	T312	389
Gartenlaub, Marshall N.	T211	286

	Session	*Page*
George, J. Glenn	M108	38
Gibson, Desiree	T204	238
Goodden, Randall	T208	274
Gookins, Bud	M206	117
Gordon, Guy	W210	595
Gurunatha, Thimmiah	W207	586
H		
Haapio, Helena	M204	110
Hamilton, Douglas B.	T108	181
Hamilton, Douglas B.	T108	184
Hamilton, Karen A.	T305	333
Hamilton, Michelle	T301	313
Hare, Lynne	T102	166
Hein, Kevin	W201	543
Heinloth, Stefan	T305	337
Hellsten, Ulrika	W104	423
Herman, John T.	M106	28
Hoskins, Robert	T211	293
Hutchins, Greg	W206	566
Hutton, David W.	M201	87
J		
Janis, Stu	T102	166
Jenkins, Lee	W111	511
Johnson, Gary L.	T309	379
Jones, G. Thomas	M105	14
Joswick, Pat	W106	479
K		
Kaye, Steve	M104	12
Kelada, Joseph N.	W105	448
Kirby, Adrienne	T212	296
Klenz, Bradley W.	W114	521
Knapp, Marian L.	W212	607
Kobi, A.	W102	400
Kraber, Shari L.	W102	394
Krasner, Herb	W108	500
Krefft, James H.	W105	454
Kume, Hitoshi	W213	609
L		
Lindborg, Henry	W206	566
Lucas, James M.	M106	29
Ludford, Joseph F.	M209	127
M		
Malsbury, Judith A.	W205	559
Mathis, N. Barry, Jr.	T215	303
McCoy, Doug	T302	327
McDonald, Mark P.	T108	181
McDonald, Mark P.	T108	184
McLinn, James	M108	40
Meyers, Becky	T210	284
Mickiewicz, Michele	M210	142
Miller, Scott	T114	222
Morrow, John	W106	490
Mosgaller, Tom	T210	284
Murak, Gerry	T203	236
Murine, Gerald E.	W105	461
Muser, Marian	T109	193
N		
Nash, Donna M.	T303	331
Newhouse, Bob	T311	385
Nickerson, Ruth	W112	518
O		
Odem, Peggy	T311	385
O'Hanlon, Alisa	T110	194
P		
Pearson, Thomas A.	T207	268
Pegg, P. John	T112	215
Peña, Daniel	W202	550
Persfull, Jenny	M206	116
Peterson, Alan J.	T113	218
Phillips, Elaine	W106	472
Pohlen, Tom	T202	230
Popovich, Mark	T210	284
Prosser, Audrey	T308	372
R		
Rau, R. H. G.	M201	96
Reid, R. Dan	T113	218
Reiley, Thomas T.	W212	607
Roberts, Jean	W105	461
Rosenberg, Ron	M203	104
Ross, Kenneth	T208	278
Roy, Sumit	T305	342
Russell, J. P.	W205	564

	Session	Page
S		
Saffran, Norbert	M114	81
Satz, Devin	T202	225
Savolainen, Taina	T206	256
Scanlan, Phillip M.	M107	36
Scholtes, Peter	T210	284
SSchottmiller, John C.	W108	504
Scibilia, B.	W102	400
Shade, Janice	T102	166
Shipley, Jim	W211	601
Shipman, Douglas A.	M209	134
Sinha, Madhav N.	T306	356
Sinha, Madhav N.	W210	595
Snee, Ron	T102	166
Sobah, Hank	T109	193
Sommer, Paula Brooks	W208	589
Stanleigh, Michael	W103	405
Stefenson, Eric	T306	356
Sulzer, George	M212	150
T		
Terez, Tom	M103	4
Topp, Lori	M201	87
Tsiakals, Joe	M109	52
Turner, David	W201	530
V		
Varjonen, Annika	T104	168
VerDuft, Jerry L.	T308	375
Vogt, Ulrike	M114	81
Von Weber, Mark	W206	566
W		
Wain, Hay Wun	W104	432
Watson, Greg	T109	193
Weeks, Dale	T210	284
West, Jack	M109	56
West, Jack	T109	193
Wheeler, Donald J.	M208	122
Wiklund, Pia Sandvik	W104	423
Wilcock, Anne	T301	313
Wilson, George	W104	439
Wingenroth, Bob	M110	58
Won, Hyung-gyoo	T306	363
Woodrow, Susan	T114	222
Z		
Ziebell, Russ	M214	158

KEY WORD INDEX

A

Accountability, 385
Accounting, 74
Action strategies, 607
Activity-based cost management (ABC/M), 74
Aerospace industry, 391
Aliased interactions, 394
Alignment, 333, 342, 601
Analysis of variance (ANOVA), 321, 327
Assessment, 87, 550
Audit program management, 282
Auditors, 564
Auditors, certified quality, 222, 564
Audits, 150, 559, 564
Automotive industry, 56, 490, 497

B

Balanced scorecard, 225
Baldrige Award, 60, 87, 149, 176, 284, 306, 385, 432, 601
Benchmarking, 284
Best practices, 236
Best value, 414
Body of knowledge, 564
Brain, 202
Business excellence model, 414
Business management system (BMS), 306
Business metrics, 268
Business results, 181

C

Careers, 299, 566
Cause-and-effect diagrams, 389
Certification, 222
Certified quality auditor, 222, 564
Certified quality engineer, 222
Certified quality manager, 222
Challenge, 134
Change, 4, 104, 114, 181, 574, 607
Change, capacity to, 184
Change, dynamic, 252
Citizen-government interaction, 284
Civil service, 509
Collaboration, 142, 303
Communication, 168
Community, 139, 194, 518
Community health, 518, 607
Competencies, 454
Competitiveness, 479
Compliance management, 158
Computer-based training (CBT), 301
Computing, 391
Consortium model, 472
Constraints, theory of, 543
Consulting, 171, 238
Context, content, and course of action, 181
Continual improvement, 28, 122
Continuous improvement, 123, 218, 333, 385, 414, 423, 498, 543
Contour plot, 327
Contractual quality management, 110
Contrast method, 28
Control charts, 215
Corrective action, 218
Correlation, 586
Cost accounting, 74
Cost-benefit analysis, 282
Cost of poor quality, 507
Cost of quality (COQ), 490, 498, 500, 504, 507
Course of action, context, and content, 181
Cross-product arrays, 400
Cultural change, 4, 184
Culture, 256, 601
Customer focus, 284
Customer satisfaction, 123, 176, 296, 386, 559
Customer service, 368, 386, 550
Customer-supplier relationship, 530
Customer surveys, 595

D

Data analysis, 511, 615
Data warehouse, 521
Decision support, 74
Deming, W. Edwards, 194, 511
Deployment, 181
Design of experiments, 26, 29, 321, 327, 394
Diabetes, 230
Disease management, 215
Diversity, operational, 96
Documentation, 331

Dolphins, 36
Downtown development, 139
Dynamic change, 252
Dynamic leadership, 252

E

Eco-management and audit scheme (EMAS), 150
Economics, 504
Education, 60, 202, 210, 293, 296, 368, 385, 511, 589, 601
Educational assessments, 286
Effectiveness, measurement of, 379
Employment, 299, 454
Engineer, certified quality, 222
Engineering, 274, 400, 570
Enterprise resource planning (ERP), 158
Entrepreneurial spirit, 256
Environment, 36
Environmental management system, 150
Estimation, parameter, 578

F

Facilitation, 142
Facility quality, 127
Factor effect, 26
Failure mode effects analysis (FMEA), 40, 570
Financial sector, 81
Flow, and lean manufacturing, 375
Fold-over design, 394

G

Global aim, 607
Goals, 342
Government, 58, 139, 284, 356, 414, 509, 595
Guiding principles, 96

H

Hazard analysis, 40
Healing, of the environment, 36
Health care, 73, 149, 215, 230, 296, 386, 389, 518, 607
High performance workplace, 4, 601
Hiring, 454
History, 116
Human factors, 117, 313, 461

I

Ideological perspective, 256
Illustrations, strategic, 168
Implementation, 60, 81, 236, 313, 497
Information, need for, 615
Information, real-time, 268
Information technology, 391
Innovation, 218
Inspection, 116, 117
Integrated management system (IMS), 337
Integrated model, 363
Integrated quality systems, 127
Integrated risk reduction, 110
Integration, and operational diversity, 96
Integration, and quality metrics, 461
Interactions, citizen-government, 284
Interactions, statistical, 26, 166, 394
Internal consulting, 238
Internet, 301, 368
ISO 9000, 56, 60, 73, 81, 149, 306, 331, 472, 504, 609
ISO 9001, 48, 52, 123, 337, 363, 379, 609
ISO 9002, 609
ISO 9003, 609
ISO 9004, 50
ISO 14001, 150
ISO TC 176, 52, 609
ISO TC 210, 52

J

Job search, 299

K

K-12 education, 210, 293, 589, 601
Knowledge, 296, 564
Knowledge revolution, 268
Koalaty Kid, 210

L

Law, preventive, 110
Lawsuits, 274
Lawyers, 278
Leadership, 4, 12, 96, 104, 193, 313, 356, 509
Leadership, dynamic, 252
Lean manufacturing, 375, 530
Lean thinking, 543
Learning, 58, 202, 293, 490, 511, 566
Learning organization, 423
Legal issues, 110, 274, 278

M

Malcolm Baldrige National Quality Award (MBNQA), 60, 87, 149, 176, 284, 306, 385, 432, 601
Management, statistical thinking for, 166

Manager, certified quality, 222
Manufacturing, 114
Manufacturing, lean, 375, 530
Medical device quality systems, 52
Metrics, 268, 461
Multiattribute model, 550

N

National citizen satisfaction index, 595
Networking, 236
New product development process, 238
Non-manufacturing processes, 498
Nurses, 296

O

Ocean, 36
Online analytical processing (OLAP), 521
Operational diversity, 96
Optimal resource allocation, 461
Organizational design, 58
Organizational influence, 104

P

Parameter design, 400
Parameter estimation, 575
Pareto charts, 389
Participation, 58
Partnership, 472
Patient satisfaction, 386
Patients, 296
Performance evaluation, 379
Performance improvement, 210, 215, 244, 301
Performance management, 454
Performance measurement, 225, 389
Pharmaceutical TQM, 372
Plan-do-check-act (PDCA) cycle, 14, 607
Planning, 14, 87, 158, 333, 518, 593
Prevention, 114, 274, 593
Preventive law, 110
Priority setting, 389
Problem solving, 1, 171, 293
Process control, 122
Process control charts, 215
Process dynamics, 252
Process management, 284, 498
Processes, 117, 179, 210, 230, 238, 363, 391, 559
Product development, 238
Product liability, 274, 278
Professional development, 566
Profound knowledge, 268
Progressive approach, 116
Project management, 405
Public sector, 58, 139, 142, 284, 356, 414, 509, 595

Q

QS-9000, 490
Quality assurance (QA), 238, 593
Quality consulting, 171
Quality customer service, 368
Quality engineering, 400
Quality improvement challenge, 134
Quality management, 48, 50, 379
Quality system implementation, 60, 81, 313, 497
Quality tools, 372

R

Rainbow process, 586
Randomization, 29
Real-time information, 268
Regression analysis, 586
Relationship grid, 461
Reliability, 274, 575, 586
Requirements, 48
Resistance welding, 321
Response surface, 26, 321
Restriction, in experimental design, 29
Reviews, 14
Risk abatement, 530
Risk analysis, 40
Risk management, 38, 386
Risk reduction, 110
Run charts, 389

S

Safety, 278
Scorecard, 181, 225
Sector specific standards, 56
Self-assessment, 423, 439
Service industry, 81
Service level agreement, 181
Service quality, 368, 386, 550
Signal-to-noise ratio, 400
Six sigma, 1, 479
Skills, and learning, 293
Small businesses, 439
Software process improvement, 179
Software quality costs, 500, 507
Split plot, 29
Stakeholders, 448
Statistical process control (SPC), 122, 179
Statistical quality improvement, 521
Statistical thinking, 166, 230, 589
Strategic illustrations, 168
Strategic planning, 14, 333, 593

Strategic process management, 284
Student organizations, 286
Success, 303, 593
Suitability, 379
Suppliers, 176, 497, 530
Surveys, 595

T

Taguchi's parameter design, 400
Teams, 193, 210, 303
Technology, 117, 391
Technology insertion, 225
Testing, 116
Theory of constraints, 543
Tolerance design, 575
Total performance improvement (TPI), 244
Total quality ideology, 256
Total quality leadership, 12
Total quality management (TQM), 372, 423, 432, 448, 504
Trace plot, 327
Training, 222, 301
Transformational change, 184
Transition, careers in, 299
Trust, 58

V

Validation, 372
Value stream, 375
Variability, 28, 375, 586
Variation, 230
Vision, 116
Visualizations, 168
Vocational-technical student organizations, 286

W

Weight assessment, 550
Welding, resistance, 321
Work instructions, 331
Working together, 303